



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,423	05/22/2006	Motozo Yoshikiyo	501/44292/103-PCT-US	7618
279 7590 02/23/2007 Trexler, Bushnell, Giangiorgi, Blackstone & Marr, Ltd. 105 West Adams Street Suite 3600 Chicago, IL 60603			EXAMINER LU, C CAIXIA	
			ART UNIT 1713	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	DELIVERY MODE
3 MONTHS			02/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/565,423

Applicant(s)

YOSHIKIYO ET AL.

Examiner

Caixia Lu

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-69 is/are pending in the application.
- 4a) Of the above claim(s) 23-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 37-69 is/are rejected.
- 7) ☒ Claim(s) 41, 46, 51, 56 and 61 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/3/06&2/9/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's election without traverse of Groups IV and V, claims 33-69 wherein the elected catalyst component species is a mixture of diethylaminotriethoxysilane and bis(diethylamino)diethoxysilane, in the reply filed on January 3, 2007 is acknowledged.

Specification

2. The disclosure is objected to because of the following informalities: (i) in pages 18-19, formulas 33 and 34 are mentioned throughout, however, those formulas are not identified; and (ii) in [0142] and [0143] respectively of page 41, the description of "[p]olymerization of propylene is performed as in Example 1" lacks antecedence.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 37-40, 42-45, 47-50, 52-55, and 57-60 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 37-40

Disclosing necessary limitation in a pair of parentheses should be avoided because the limitations following a term in a pair of parentheses is considered optional. Since these limitations here are necessary, the use of parentheses should be avoided.

Claims 37

Art Unit: 1713

Each claim should be a single sentence, the use of periods in the 2nd and last lines respectively from the end of the claims should be avoided.

Claim Objections

5. Claims 41, 46, 51, 56 and 61 are objected to because of the following informalities: in claim 41, the article "a" used in the front of diethylaminotriethoxysilane and bis(diethylamino)diethoxysilane respectively should be deleted. Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 37-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Igai et al. (JP8301920).

The instant elected invention is directed to a catalyst component comprising a mixture of diethylaminotriethoxysilane and bis(diethylamino)diethoxysilane, a Ziegler catalyst and a polymerization process thereof.

Igai teaches a Ziegler catalyst for a polymerization process comprising an external electron donor which is a silane mixture represented by formula (C) and $\text{Si}(\text{OR}^1)_2(\text{NR}^2\text{R}^3)_2$ and formula (D) of $\text{R}^4_n\text{Si}(\text{OR}^5)_{4-n}$ ([0018] and [0028]). When the R^1 , R^2 , R^3 , and R^5 each are ethyl, R^4 is diethylamino group, n is 1, Igai's silane mixture meets the limitation of the silane mixture catalyst component of the instant claims.

Art Unit: 1713

Thus, it would have been obvious to a skilled artisan at the time the invention was made to employ Igai's teaching to conduct olefin polymerization in the presence of the Ziegler catalyst comprising the silane mixture of diethylaminotriethoxysilane and bis(diethylamino)diethoxysilane as the external electron donor since such is within the disclosure of Igai and in the absence of any showing criticality and unexpected results.

Applicants' attempt of showing unexpected higher melt flow rate of propylene polymer prepared in the catalyst composition of the instant claims in Table 1 is noted. However, it is the examiner's position that the higher melt flow rates of the propylene polymers of Example 21 and 22 is caused by the chain transfer reagent diethylamine in the silane mixture rather than the silane mixture itself. Therefore, the showing is not commensurate with the scope of the instant claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu whose telephone number is (571) 272-1106. The examiner can normally be reached from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful and the matter is urgent, the examiner's supervisor, David Wu, can be reached at (571) 272-1114. The fax numbers for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1700.



Caixia Lu, Ph. D.
Primary Examiner